REMARKS

The Examiner is thanked for his careful and very thorough Office Action.

Claims 1 and 2 have been rejected. By the foregoing amendments, various Claims are sought to be amended or canceled without prejudice.

New Claims 3-43 have been added. The support for Claims 3, 5, 8, 10, 14, 16, 20, 22, 26, 28, 32, 34, 39, and 41 can be found, for example, in the abstract. The support for Claims 4, 9, 15, 21, 27, 33, and 40 can be found, for example, in paragraph [0028]. The support for Claims 6, 7, 11, 12, 17, 18, 23, 24, 29, 30, 35, 36, 38, 42, and 43 can be found, for example, in paragraph [0029]. The support for Claim 13 can be found, for example, in the abstract and paragraphs [0028] and [0029]. The support for Claim 19 can be found, for example, in the abstract and paragraphs [0018], [0029], [0036], [0037], [0070], and [0071]. The support for Claim 25 can be found, for example, in the abstract and paragraphs [0018], [0028], [0029], and [0036]. The support for Claim 31 can be found, for example, in the abstract and paragraph [0029]. The support for Claim 37 can be found, for example, in paragraphs [0029], [0030], [0031], and [0036].

Art Rejections

The art rejections are all respectfully traversed.

Applicants believe that a brief overview of 3D graphics may be useful in distinguishing the present inventions from the shading algorithms mentioned by the Examiner:

One of the first steps in rendering a primitive is determining whether a pixel is in the inside or outside of a primitive. Considering that the edges of a primitive, typically a triangle, can be described by the algebraic representation of its edges, a pixel belongs to the interior of the primitive if all the edge function values computed for its edges have the same sign. The values for the edge function are used as a stencil in rasterization that allows a pixel to be modified only if it is interior to the primitive. The present inventions relate to a set of techniques for rapidly computing the edge function values for patches of pixels to determine which pixels in the patches fall within the primitive.

Amendment – Serial No. 10/071,895..Page 9

Once all of the pixels that fall within a primitive have been identified, the information needed for the screen pixels covered by the primitive is interpolated from the data associated with its projected vertices on the screen. This is where the shading algorithms mentioned by the Examiner come into play, **after** the primitive and its associated pixels have been identified. Accordingly, these shading algorithms are not concerned with determining whether a candidate pixel is inside or outside a primitive because the algorithms are only applied across primitives and their respective pixels. Therefore, they do not compute edge function values. They merely interpolate data across the entire polygon surface.

Rejections Under 35 USC 102(b)

Claims 1 and 2 stand rejected under 35 USC Section 102(b) as anticipated by *Watt et al.*

The claim language of Claim 1 is not met. Specifically, Claim 1 recites, "computing edge function values for at least one interior point within said patch; and computing edge function values for multiple other points within said patch, using an arithmetic combination of said edge function values for said interior point, together with previously computed values of said edge functions for points on the border of said patch, together with a reduced set of offset vectors."

As established earlier, the shading algorithms referred to by the Examiner do not appear to describe or suggests any innovations with regard to determining whether a pixel is inside or outside of a primitive by the use of edge function values.

Claim 2 also recites features not shown or suggested by *Watt et al.* Specifically, Claim 2 recites, "computing the value of an edge function at an interior reference point within said patch, and at a boundary reference point on the edge of said patch; and assessing the value of said edge

function at multiple other points within said patch, by comparing the value of said edge function at a respective reference point, which may be said interior reference point or said boundary reference point or a previously computed reference point, with the delta value of said edge function for a respective one of a reduced set of offset vectors; wherein said reduced set of offset vectors does not include vectors which are complements or shifts of each other."

Again, the shading algorithms referred to by the Examiner do not appear to describe or suggests any innovations with regard to determining whether a pixel is inside or outside of a primitive by the use of edge function values.

Thus, for these reasons, Applicants respectfully request withdrawal of this rejection.

Conclusion

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. The Examiner is requested to telephone the undersigned attorney or Robert Groover for an interview to resolve any remaining issues.

Respectfully submitted,

N. Elizabeth Pham, Reg.No. 49,042

Customer Number 29106

Attorney for Applicant

11330 Valley Dale Drive, Dallas TX 75230

214-363-3038   *groover@technopatents.com*   June 28, 2004